

Wetland Regulation in MN

*BWSR Academy
October 25, 2011*

Do you have a WCA rulebook with you?

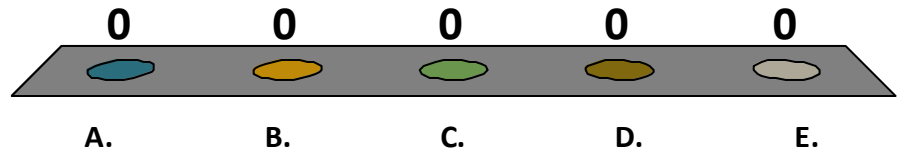
A. Yes

B. No



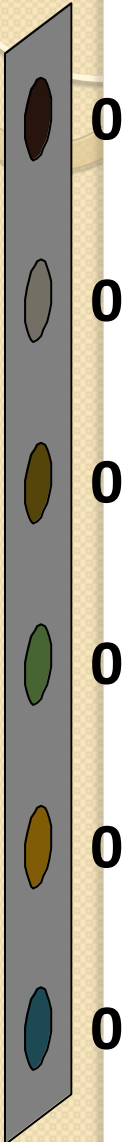
How much WCA experience do you have?

- A. 0 – 1 year
- B. >1 – 3 years
- C. >3 – 5 years
- D. >5 – 10 years
- E. 10+ years



Which best describes your view of WCA?

- A. A breath of fresh air
- B. Necessary
- C. Complicated but effective
- D. Not restrictive enough
- E. Pain in the rear
- F. Waste of time



When it comes to wetlands there is:

DEBATE



LEGISLATION



REGULATION



IMPLEMENTATION



You

Why do we regulate wetlands?

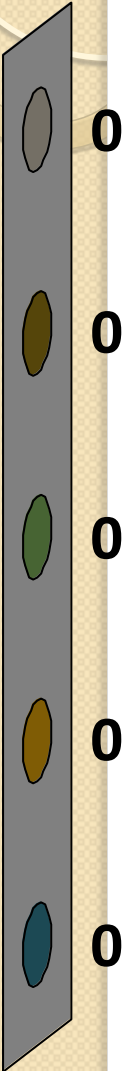
1. To save the planet

2. Because we can

3. They provide functions that we value

4. To prevent degradation of water quality

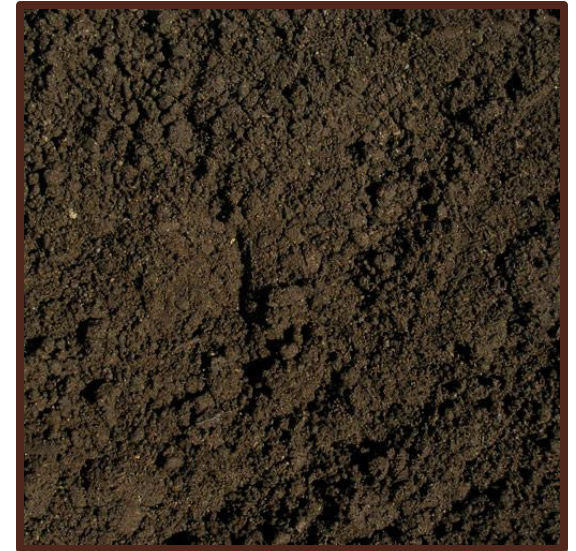
5. To preserve remaining natural areas



What's so special about wetlands?



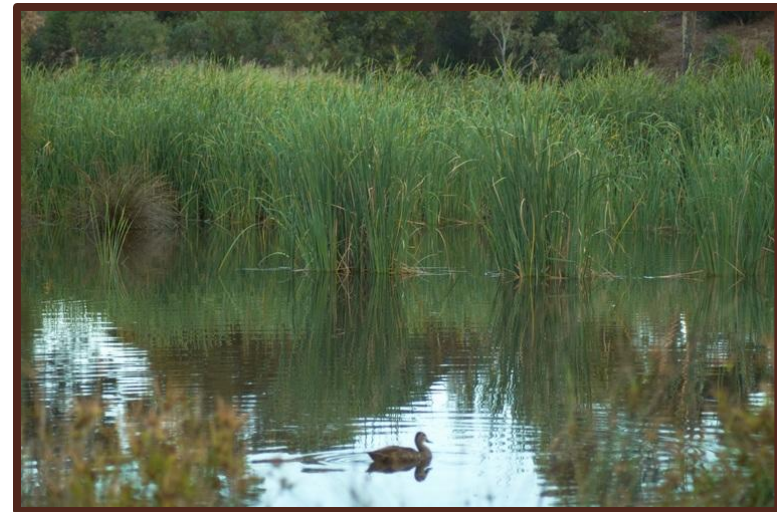
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Water Quality



Floodwater Retention



Habitat

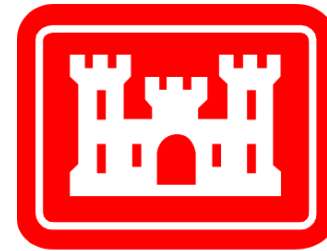




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Who Regulates in MN?



**US Army Corps
of Engineers®**



**Minnesota
Pollution
Control
Agency**



Communities
and Local Government

Wetland Conservation Act



Oversight

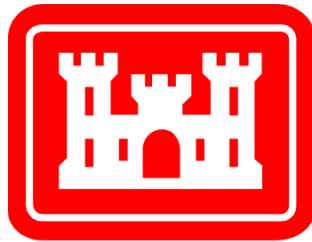


Implementation

Section 404 Clean Water Act



Oversight



**US Army Corps
of Engineers®**

Implementation

DNR Protected Waters Program

> 10 ac



> 2.5 ac



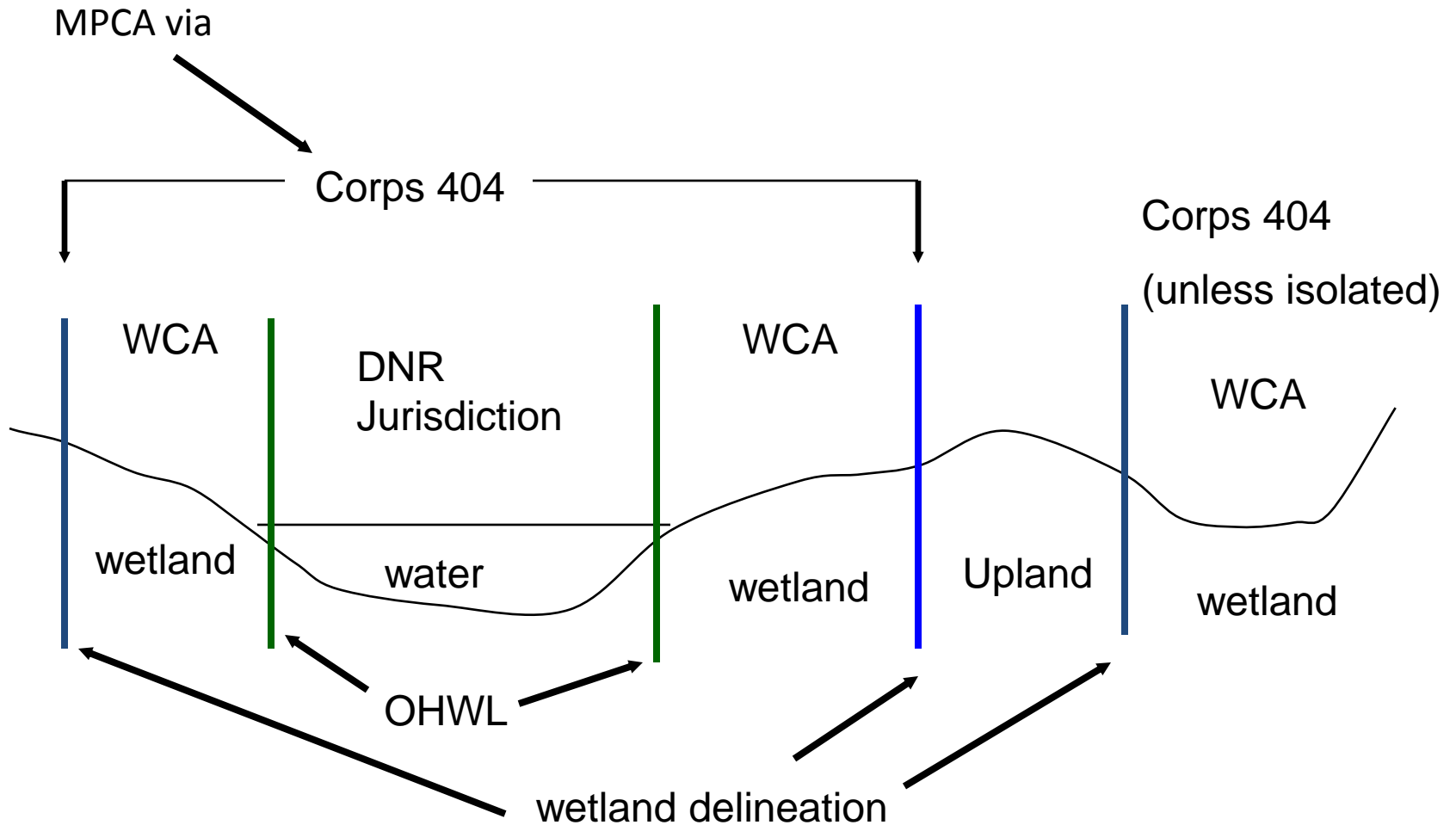
Minnesota Pollution Control Agency

- Section 401 Clean Water Act
- Jurisdiction triggered by 404 permit.
- Water quality



Minnesota
Pollution
Control
Agency

Minnesota Wetland Regulation



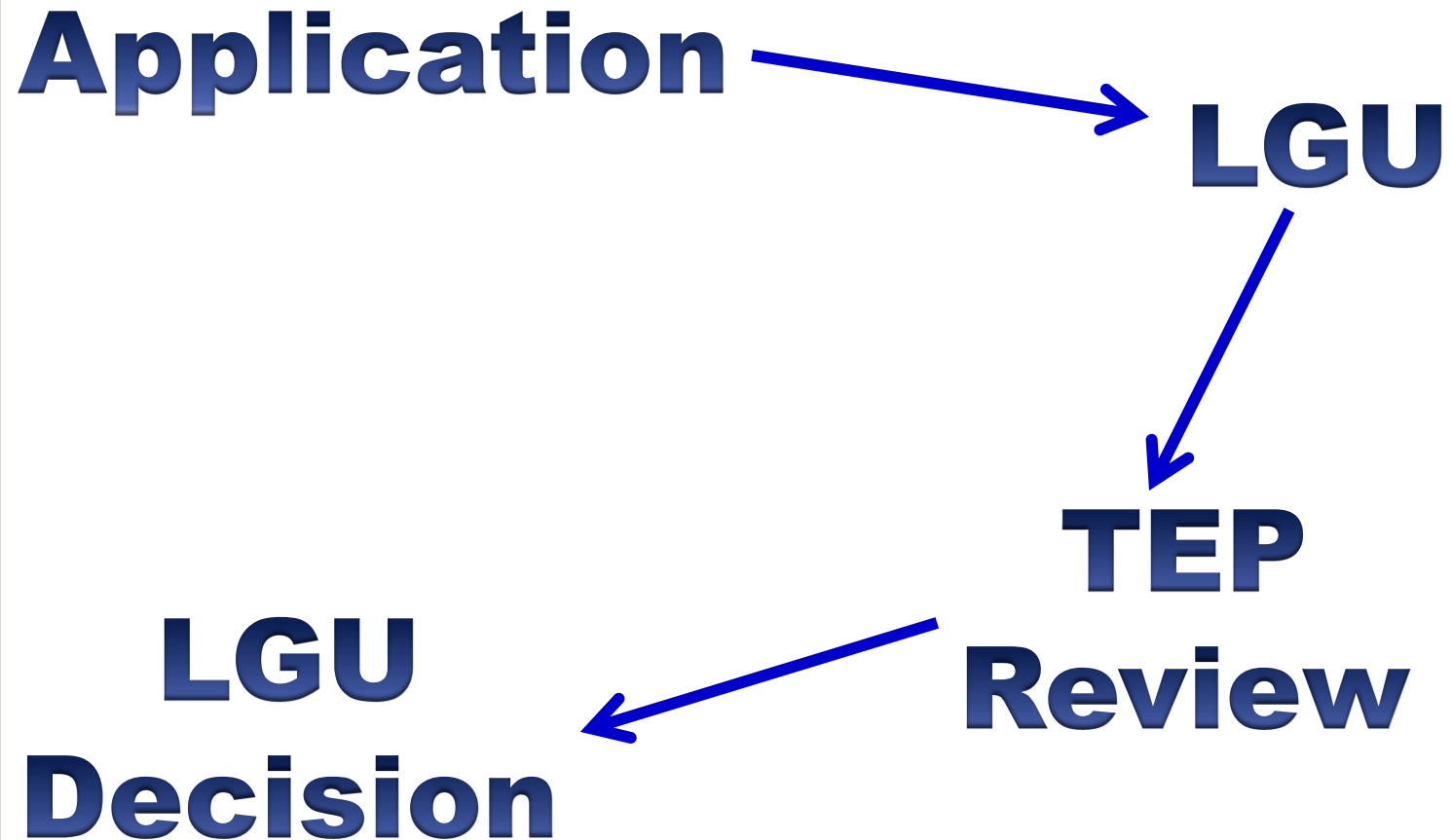
What About Swampbuster?



**Not a regulatory program.
A compliance program.**

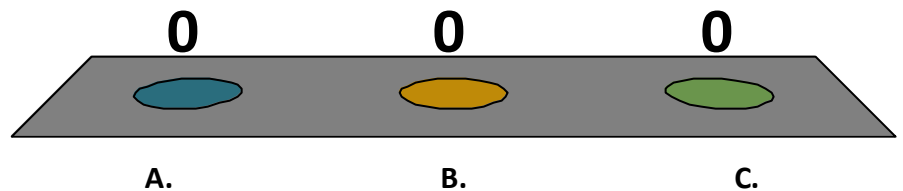
WETLAND CONSERVATION ACT

How it works



WCA regulates all wetlands

- A. Yes
- B. No
- C. Not Sure



Implementation of the WCA
regulatory program is intended to
result in a no net-loss of wetlands.

A. True

B. False



WCA treats all wetlands equally

- A. True
- B. False





WCA REALITIES

WCA is a compromise.

Between wetland protection and other values.

WCA allows some wetland values to be lost without replacement.

WCA REALITIES

WCA attempts to compensate allowed losses through increased wetland replacement acreage and quality.

My time is up





- **Understand Statute and Rule**
- **Get to know your rule book**

Guidance:

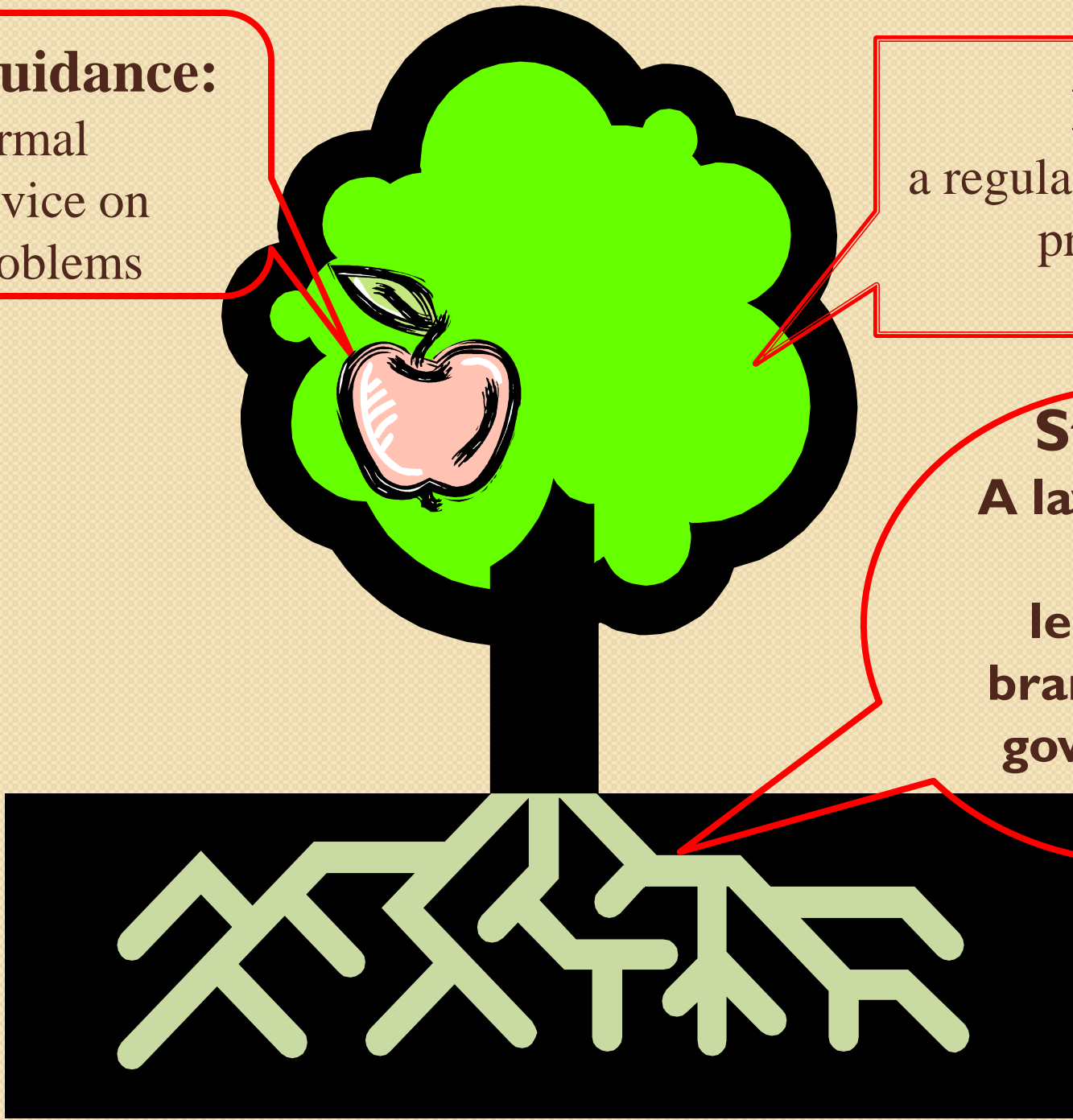
formal
advice on
problems

Rule:

a regulation governing
procedure

Statute:

A law enacted
by the
legislative
branch of the
government



Find statute citations in Rule book

G. "Type 7 wetlands" are wooded swamps in which soil is waterlogged at least to within a few inches of the surface during the growing season and is often covered with as much as one foot of water. This type occurs mostly along sluggish streams, on floodplains, on flat uplands, and in shallow basins. Trees include tamarack, arborvitae, black spruce, balsam, red maple, and black ash. Northern evergreen swamps usually have a thick ground cover of mosses. Deciduous swamps frequently support beds of duckweeds and smartweeds.

H. "Type 8 wetlands" are bogs in which soil is usually waterlogged and supports a spongy covering of mosses. This type occurs mostly in shallow basins, on flat uplands, and along sluggish streams. Vegetation is woody or herbaceous or both. Typical plants are heath shrubs, sphagnum moss, and sedges. In the north, leatherleaf, Labrador-tea, cranberries, carex, and cottongrass are often present. Scattered, often stunted, black spruce and tamarack may occur.

Statutory Authority: *MS s 103G.2242*

History: *34 SR 145*

Retrieve by number ?

103G.005

Statutes
Statutes
Laws
Rules

Statutes

Laws
Rules
Court Rules
MN Constitution

About Minnesota Statutes

2010 Table of Chapters

2010 Statutes New,
Amended or Repealed

Chapter 103B
Table of Sections

Chapter 103B Text

2010 Minnesota Statutes

103B.3355 WETLAND FUNCTIONS FOR DETERMINING PUBLIC VALUES.

(a) The public values of wetlands must be determined based upon the functions of wetlands for:

(1) water quality, including filtering of pollutants to surface and groundwater, utilization of nutrients that would otherwise pollute public waters, trapping of sediments, shoreline protection, and utilization of the wetland as a recharge area for groundwater;

(2) floodwater and storm water retention, including the potential for flooding in the watershed, the value of property subject to flooding, and the reduction in potential flooding by the wetland;

(3) public recreation and education, including hunting and fishing areas, wildlife viewing areas, and nature areas;

(4) commercial uses, including wild rice and cranberry growing and harvesting and aquaculture;

(5) fish, wildlife, native plant habitats;

(6) low-flow augmentation;

(7) carbon sequestration; and

(8) other public uses.

(b) The Board of Water and Soil Resources, in consultation with the commissioners of natural resources and agriculture and local government units, shall adopt rules establishing:

(1) scientific methodologies for determining the functions of wetlands; and

(2) criteria for determining the resulting public values of wetlands.

(c) The methodologies and criteria established under this section or other methodologies and criteria that include the functions in paragraph (a) are approved by the board, in consultation with the commissioners of natural resources and agriculture and local government units, must determine the functions and resulting public values of wetlands in the state. The functions listed in paragraph (a) are not listed in order of

(d) Public value criteria established or approved by the board under this section do not apply in areas subject to local comprehensive protection and management plans established under section [103G.2243](#).

Resources

Topics

[Agriculture Department](#)

[Aquaculture](#)

[Counties](#)

[Flood Control](#)

[Floodplains](#)

[Groundwater](#)

[Local Governments](#)

[Recent History](#)

2009 103B.3355 Amended 2009 c 17

1996 103B.3355 Amended 1996 c 46

[103G.145](#)

Application

PUBLIC WATERS DESIGNATION AND USE

[103G.201](#)

Public Waters Inventory

[103G.205](#)

Effect of Public Waters Designation

[103G.211](#)

Drainage of Public Waters Generally Prohibited W

[103G.215](#)

Agricultural Use of Public Waters during Drought

WETLANDS

[103G.221](#)

Drainage of Public Waters Wetlands

[103G.2212](#)

Contractor's Responsibility When Work Drains or I

[103G.222](#)

Replacement of Wetlands

[103G.223](#)

Calcareous Fens

[103G.2241](#)

Exemptions

[103G.2242](#)

Wetland Value Replacement Plans

[103G.2243](#)

Local Comprehensive Wetland Protection and Ma

[103G.2244](#)

Wetland Creation or Restoration Within Pipeline E

[103G.225](#)

State Wetlands and Public Drainage Systems

[103G.2251](#)

State Conservation Easements: Wetland Bank Cr

State Register publication

Board of Water and Soil Resources Adopted Permanent Rules Relating to Wetland Conservation

The rules proposed and published at *State Register*, Volume 33, Number 39, pages 1641-1691, March 30, 2009 (33 SR 1641), are adopted with the following modifications:

PURPOSE AND SCOPE, AND DEFINITIONS

8420.0100 PURPOSE.

Subp. 3. **Administration.** The Wetland Conservation Act is administered by local government units with oversight provided by the Board of Water and Soil Resources. Enforcement of the act is provided by Department of Natural Resources conservation officers and other peace officers. The Wetland Conservation Act became effective on January 1, 1992, and this chapter and portions of *Minnesota Statutes*, chapters 103A, 103B, 103E, 103F, and 103G, govern its implementation. ~~The public is encouraged to contact their local government unit or soil and water conservation district for general information on wetlands and the interpretation of this chapter. Persons seeking general information on wetlands and the interpretation of this chapter may contact their local government unit or soil and water conservation district.~~

(Cite 34 SR 145)

State Register, Monday 3 August 2009

Page 145

Definitions:

Subp. 72. Wetlands, a wetland, the wetland, or wetland area.

"Wetlands" means lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.

For purposes of this subpart, wetlands must:

(1) have a predominance of hydric soils;

Statute 103G.005

Subd. 19. Wetlands.

(a) "Wetlands" means lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this definition, wetlands must have the following three attributes:

(1) have a predominance of hydric soils;

History:

1990 c 391 art 7 s 2; 1990 c 597 s 62; 1991 c 354 art 6 s 1-6; art 10 s 4; 1994 c 643 s 49; 1995 c 218 s 3; 1996 c 462 s 10-22,43; 1997 c 2 s 8; 2000 c 382 s 1,2; 2003 c 128 art 1 s 111

Chapter 8420

(1) installation, maintenance, repair, or replacement of utility lines, including pipelines, if:

- (a) the impacts have been avoided and minimized to the extent possible; and
- (b) the proposed project significantly modifies or alters less than one-half acre of wetlands; or

(2) repair or updating of existing subsurface sewage treatment systems necessary to comply with local, state, and federal regulations. This exemption does not apply if the wetland impacts are the result of the treatment system being expanded to accommodate increased use.

B. For maintenance, repair, and replacement, a local government unit may issue a seasonal or annual exemption approval or the utility may proceed without local government unit approval if the utility is carrying out the work according to approved best management practices. Work of an emergency nature may proceed as necessary and any impacts must be addressed with the local government unit after the emergency work has been completed.

Subp. 7. Forestry. The exemption under this subpart is for roads and crossings solely constructed, and primarily used, for the purpose of providing access for the conduct of silvicultural activities. A replacement plan is not required for impacts resulting from construction of forest roads and crossings so long as the activity limits the impact on the hydrologic and biologic characteristics of the wetland; the construction activities do not include, or result in, the access becoming a dike, drainage ditch, or tile line; impacts are avoided wherever possible; and there is no drainage of the wetland or public waters.

Subp. 8. De minimis.

A. Except as provided in items B and C, a replacement plan is not required for projects that impact up to the following amounts of wetlands:

(1) in a greater than 80 percent area:

- (a) 10,000 square feet, except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the shoreland wetland protection zone;
- (b) 400 square feet, except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the building setback zone, as defined in the local shoreland management ordinance, but within the shoreland wetland protection zone. This amount may be increased to 1,000 square feet by the local government unit if the wetland is isolated and determined to have no direct surficial connection to the public water;
- (c) 100 square feet of type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the building setback zone, as defined in the local shoreland management ordinance; or

(d) 20 square feet of any wetland inside the building setback zone, as defined in the local shoreland management ordinance;

(2) in a 50 to 80 percent area:

- (a) 5,000 square feet, except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the shoreland wetland protection zone and outside of the 11-county metropolitan area;

(b) 2,500 square feet, except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the shoreland wetland protection zone and inside the 11-county metropolitan area;

(c) 400 square feet, except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the building setback zone, as defined in the local shoreland management ordinance, but within the shoreland wetland protection zone;

(d) 100 square feet of type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland outside of the building setback zone, as defined in the local shoreland management ordinance; or

(e) 20 square feet of any wetland inside the building setback zone, as defined in the local shoreland management ordinance; or

(3) in a less than 50 percent area:

(a) 2,000 square feet of type 1, 2, or 6 wetland outside of the shoreland wetland protection zone and outside the 11-county metropolitan area;

(b) 1,000 square feet of type 1, 2, or 6 wetland outside of the shoreland wetland protection zone and inside the 11-county metropolitan area;

(c) 400 square feet of type 1, 2, or 6 wetland outside of the building setback zone, as defined in the local shoreland management ordinance, but within the shoreland wetland protection zone;

(d) 100 square feet of type 3, 4, 5, 7, or 8 wetland outside of the building setback zone, as defined in the local shoreland management ordinance; or

(e) 20 square feet of any wetland inside the building setback zone, as defined in the local shoreland management ordinance.

B. The amounts listed in item A may not be combined on a project.

C. The exemption under this subpart no longer applies to a landowner's portion of a wetland when the proposed project impact area and the cumulative area of the landowner's portion drained, excavated, or filled since January 1, 1992, is the greater of:

- (1) the applicable area listed in item A, if the landowner owns the entire wetland;
- (2) five percent of the landowner's portion of the wetland; or
- (3) 400 square feet.

D. Property may not be divided to increase the amounts listed in item A or to gain an exemption.

E. For purposes of this subpart, for wetlands greater than 40 acres, the wetland type may be determined to be the wetland type with the deepest water regime within the wetland and within 300 feet of the impact.

F. For purposes of this subpart, the 11-county metropolitan area consists of the counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright.

Subp. 9. Wildlife habitat. A replacement plan is not required for:

A. excavation or the associated deposition of spoil within a wetland for the primary purpose of wildlife habitat improvement, if:

Or...Rule on Line

08/03/09 REVISOR CKM/BT AR3830ST

1.1 **PURPOSE, SCOPE, AND DEFINITIONS**

1.2 **8420.0100 PURPOSE.**

1.3 Subpart 1. **Purpose.** This chapter implements the regulatory provisions of the

1.4 Wetland Conservation Act of 1991, Laws 1991, chapter 354, as amended by Laws 1993,

1.5 chapter 175; Laws 1994, chapter 627; Laws 1996, chapter 462; Laws 2000, chapter 382;

1.6 Laws 2001, chapter 146; Laws 2002, chapter 220; Laws 2003, chapter 128; Laws 2004,

1.7 chapters 221 and 255; Laws 2007, chapters 57 and 131; and Laws 2008, chapter 368. This

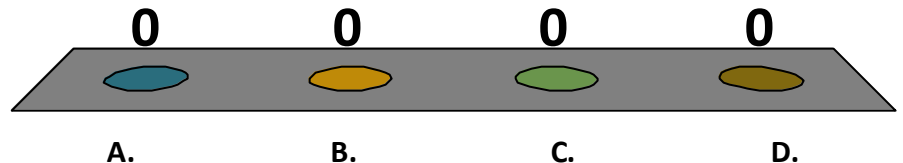
1.8 chapter shall be interpreted to implement the purpose of the act, which is to:

Add your own tabs!

- Applications p.27
- No Loss p.34
- Exemptions p.35
- Replacement ratio p.48
- Actions eligible p.57
- Enforcement p.82

Which items are required for a complete application? (Applications p.27)

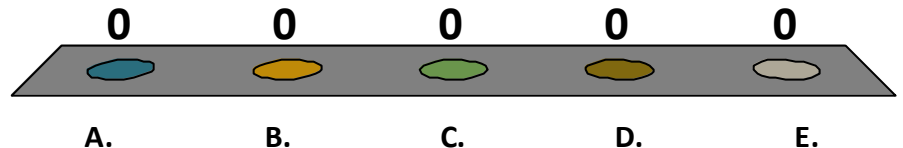
- A. Full name of applicant
- B. Type of decision requested
- C. Project area boundaries
- D. All of the above



Who is responsible for providing evidence for a no loss determination?

(No loss p.28)

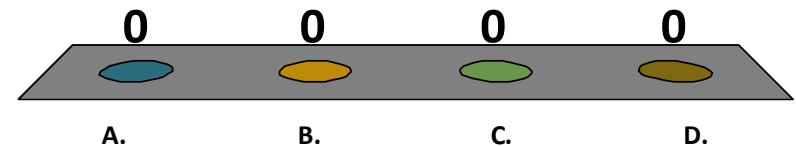
- A. SWCD
- B. LGU
- C. Landowner
- D. Consultant
- E. All of the above



Which statement is true?

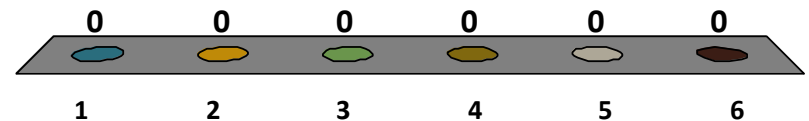
(Exemption application p.28)


- A. An exempt activity is outside the rule
- B. An exempt activity requires an application
- C. An exemption application requires a LGU decision
- D. No proof is required for an exemption to apply




A Replacement Plan application must include: (Replacement Plan p.29)


1. Amount of impact
2. Soil survey map
3. Utility lines and connections map
4. A & C
5. A & B
6. All of the above



- 
- **Rule was published with the intent of making things clear,**
 - **Read the Statutes and State Register for an inside view.**
 - **Rule revision in 2009 changed the order to group issues in a more logical way**
 - **USE your BOOK and the Rule on line**
 - **Refer to Rule by citation number in documents to allow a clear understanding**



SCOPE



Your task is to understand the context of the words & phrases of WCA Rule

Key Questions:

- 1) How are the words used?
- 2) How are the words defined (in Rule)?

The “Scope” of WCA

“Wetlands must not be impacted unless replaced by restoring or creating wetland areas of at least equal public value.”

(page 5)

Scope Continued ...

“...This chapter regulates the draining or filling of wetlands, wholly or partially, and excavation in the permanently and semi-permanently flooded areas of type 3, 4, or 5 wetlands, and in all wetland types if the excavation results in filling, draining, or conversion to non-wetland.”

Scope – Key Message

Within Scope

Regulated by WCA

Not within Scope

**Not regulated by
WCA***

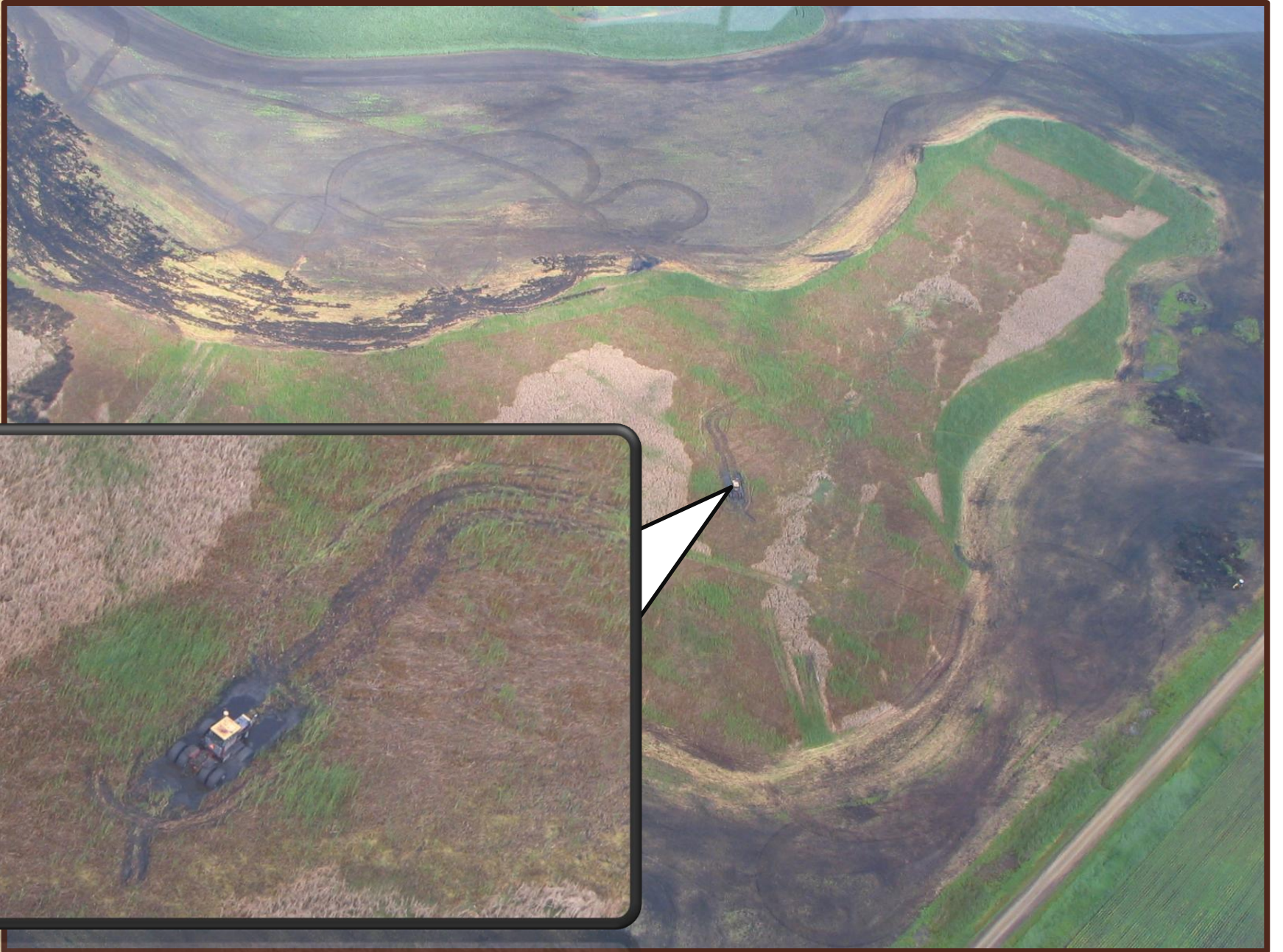
Not within Scope

**WCA “regulates” some things,
but not others**

***so long as they don’t impact the wetland.**













Not within Scope

Also includes “separation of duties”



So what IS “within the Scope”?

Any work or action conducted in or near a wetland that could potentially affect a wetland.

Result = Impact or no impact?



Importance of words ...

Which definition do you use????

Impact

“Impact” means a loss in the quantity, quality, or biological diversity of a wetland caused by draining or filling of wetlands, wholly or partially, or by excavation in the permanently and semi-permanently flooded areas of type 3, 4, or 5 wetlands, as defined in subpart 75, and in all wetland types if the excavation results in filling, draining, or conversion to non-wetland.

Impact?



Look within definitions too!

Impact means a loss of wetland due to
“draining”, “filling” or “excavating”, but ...

Some fill is not fill and some excavation is
not within the scope of WCA!

Incorporation by Reference

Incorporation by Reference includes seventeen *additional* documents and their subsequent updates, addenda or derivations (as approved by the board).

Do you know where to find them?

Are you familiar with them?

(page 17)

WCA Players

- LGU
- SWCD
- BWWSR
- DNR
- TEP

Roles of LGU

- Administer WCA locally
- The decision makers
- Provide trained & knowledgeable staff
- Report WCA activities annually
- Coordinate TEP meetings

Roles of SWCD

- Member of the TEP
- Draft Restoration/Replacement Orders
- Certify Completion of Restoration Order
- Clearing house

Roles of BWSR – Wetland Specialist



- Member of the TEP
- Provide oversight to LGU's
- Train & educate LGU's

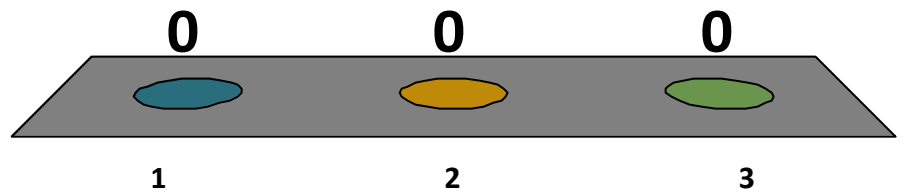
Roles of DNR



- Member of TEP (within shoreland zone)
- Issue:
 - Cease & Desist Orders
 - Restoration & Replacement Orders
- Regulate Calcareous Fens

What does TEP stand for?

1. Tiny Ephemeral Plants
2. Technically Exceptional People
3. Technical Evaluation Panel



TEP - Information

Consists of:

- SWCD
- BWSR
- Other member - appointed by LGU

Roles of TEP

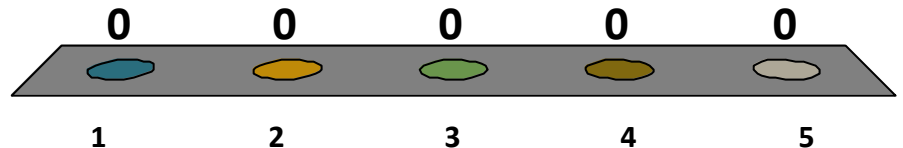
- Make Recommendations to LGU
- Review Road Projects
- Review Wetland Bank Applications
- Review Wetland Bank Credit Deposits
- Review Wetland Replacement Monitoring



Who has Primary Responsibility?

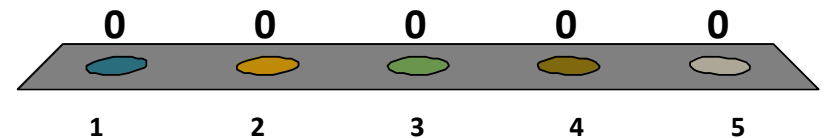
Complete annual reports on WCA activity

1. LGU
2. SWCD
3. BWWSR
4. DNR
5. TEP



Draft Restoration Orders

1. LGU
2. SWCD
3. BWWSR
4. DNR
5. TEP

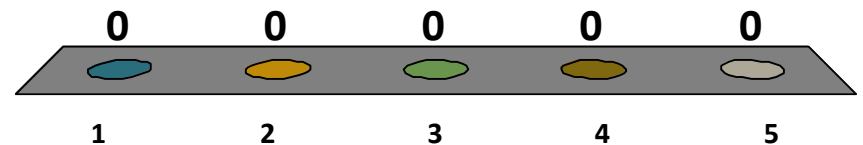




Who has Primary Responsibility?

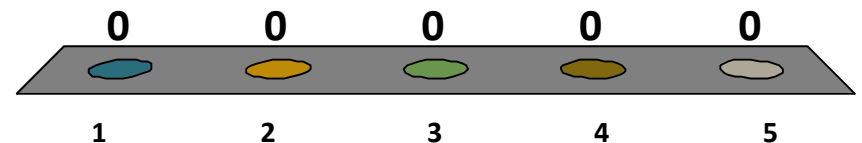
Certify Restoration Order Compliance

1. LGU
2. SWCD
3. BWWSR
4. DNR
5. TEP



Issue Restoration Orders

1. LGU
2. SWCD
3. BWWSR
4. DNR
5. TEP

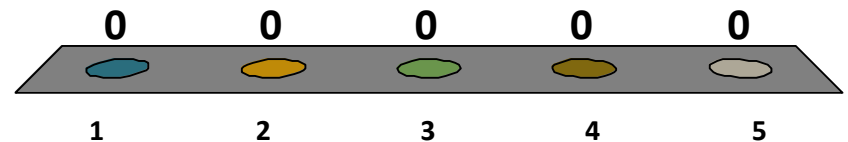




Who has Primary Responsibility?

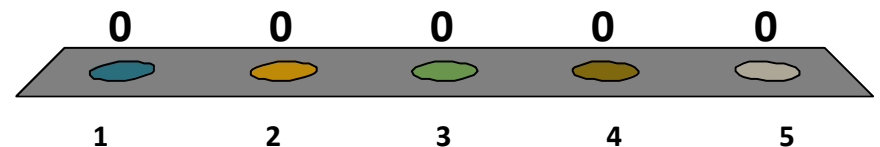
Send out application & decision notices

1. LGU
2. SWCD
3. BWVR
4. DNR
5. TEP



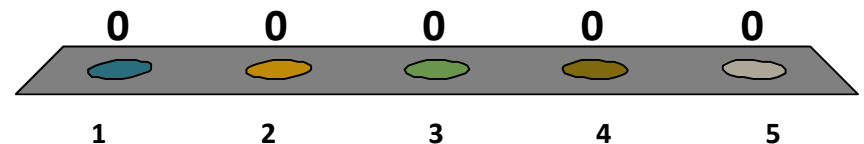
Coordinate TEP meetings

1. LGU
2. SWCD
3. BWSR
4. DNR
5. TEP



Administer the wetland banking program

1. LGU
2. SWCD
3. BWWSR
4. DNR
5. TEP



When Conflicts Might Arise.....

- LGU sometimes can be:
 - Applicant, TEP member, Decision Maker
- BWSR sometimes can be:
 - Applicant (Road Projects) & TEP member
- TEP sometimes could have:
 - 2 members from same agency (SWCD)

Application: No-Loss

pg. 34

- Definition:

Activity that has no permanent loss or impact to wetlands.

- Examples: removing a beaver dam, temporary impacts to wetlands, water level management for habitat purposes, etc.

Application: Exemption

pg. 35

- Definition:

Activity that does permanently impact a wetland but does not require replacement

- Examples: small impacts (deminimis), some activities on ag land, repair/installation of utilities

Statement:

“My project is exempt from WCA rules.”

Application: Sequencing

pg. 44

- Definition:

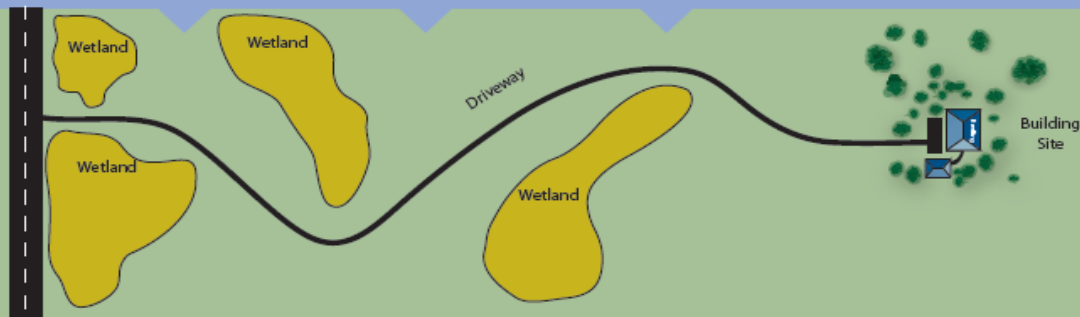
The process to which the applicant demonstrates that wetland impacts must be (in this order):

- 1) Avoided
- 2) Minimized
- 3) Rectified
- 4) Replaced

Sequencing Example

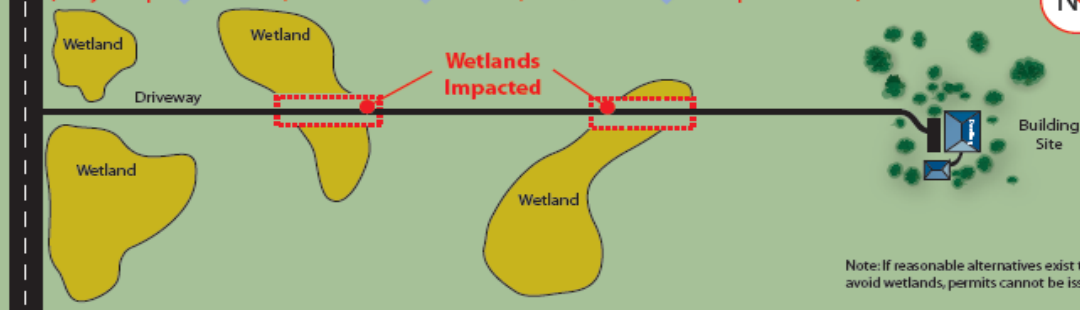
1 Avoidance

A. No Wetlands Impacted (Recommended)



B. Wetlands Impacted (Not Recommended)

(May Require Permits, Wetland Restoration, and/or Wetland Replacement)



2 Minimization

Route A (Recommended) - Route B (Not Recommended)



Application: Wetland Boundary & Type

pg. 32

- Definition:

The process to establish the boundary of a wetland using the 87 Corps Manual and its' Regional Supplements as well as the wetland type using Circular 39.

Application: Replacement Plan

pg. 47

- Definition:

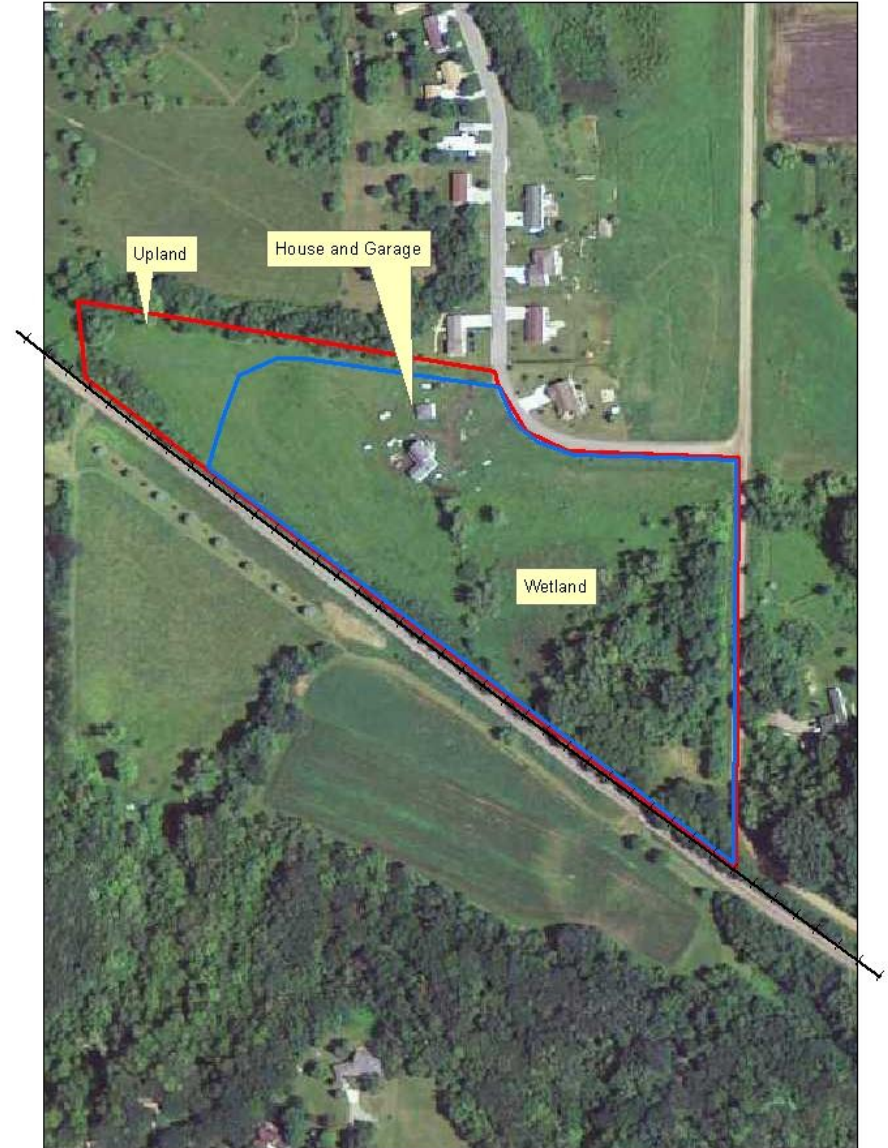
A plan to replace the lost public values from wetland impacts that are unavoidable.

Replacement Plan Example

Before Photo



After Photo



Application: Wetland Banking

pg. 65

- Definition:
The process to restore a wetland area which then can be sold (credits) to replace unavoidable impacts to wetlands in the future.

LGU Administrative Requirements

- Noticing: Process to notify others about an application that is received and when a decision is made.
- MN Statutes, Section 15.99: A timeline for land use decisions that applies to WCA.

Summary of WCA Timelines

LGU Action	Timeline
Complete Application Determination	15 days**
Notice of Application Mailing	15 days**
Decision Making Period	60 days
Extension of Decision Making Period	60 days
Notice of Decision Mailing	10 days**
Appeal Period	30 days
Decision Validity	3 years
Record Keeping Requirement	10 years

** Business days

Summary of LGU Application Types

Decision Type	Notice of Application Required	Notice of Decision Required	Minimum Comment Period
Boundary & Type	Yes	Yes	15 business days
No – Loss	No	Yes	15 business days
Exemption	No	Yes	15 business days
Sequencing Plan	Yes	Yes	15 business days
Replacement Plan	Yes	Yes	15 business days
Bank Plan	Yes	Yes	15 business days



Wetland Replacement & Monitoring

Mitigate = Make Less

Ways to mitigate wetland impacts for a project?

Avoid

Minimize

Rectify

Replace

**Must do these in
this order
(sequencing)**



Goal of Wetland Replacement

Replace lost public values.

Public value?

A suite of functions that wetlands perform that we deem important.

Public Value

Are we suppose to determine public value on every project?

Heck No! That is what the rules are for.





The Rules for Replacement

**Special Considerations – page 43
(8420.0515)**

Sequencing

Wetland Replacement

Determine how much impact.

Determine how much replacement needed.

How much replacement needed depends on:

Where it is (locally and statewide).

What type it is in relation to the wetland impacted.

Project-specific or Banking.

Project-Specific Replacement



← **Impact
Here**

Replace Here



Replacement via banking



← **Impact
Here**

**Debit
Credits →
from Here**



Replacement Plan Terms to Know

Page 48 (.0522 Subp. 4)

Replacement Ratio – credits of replacement to acres of impact

1:1

1.5:1

2:1

2.5:1

Replacement Plan Terms to Know

Page 48 (.0522 Subp. 3)

In-Kind – replacement wetland of similar type and function as impacted wetland.



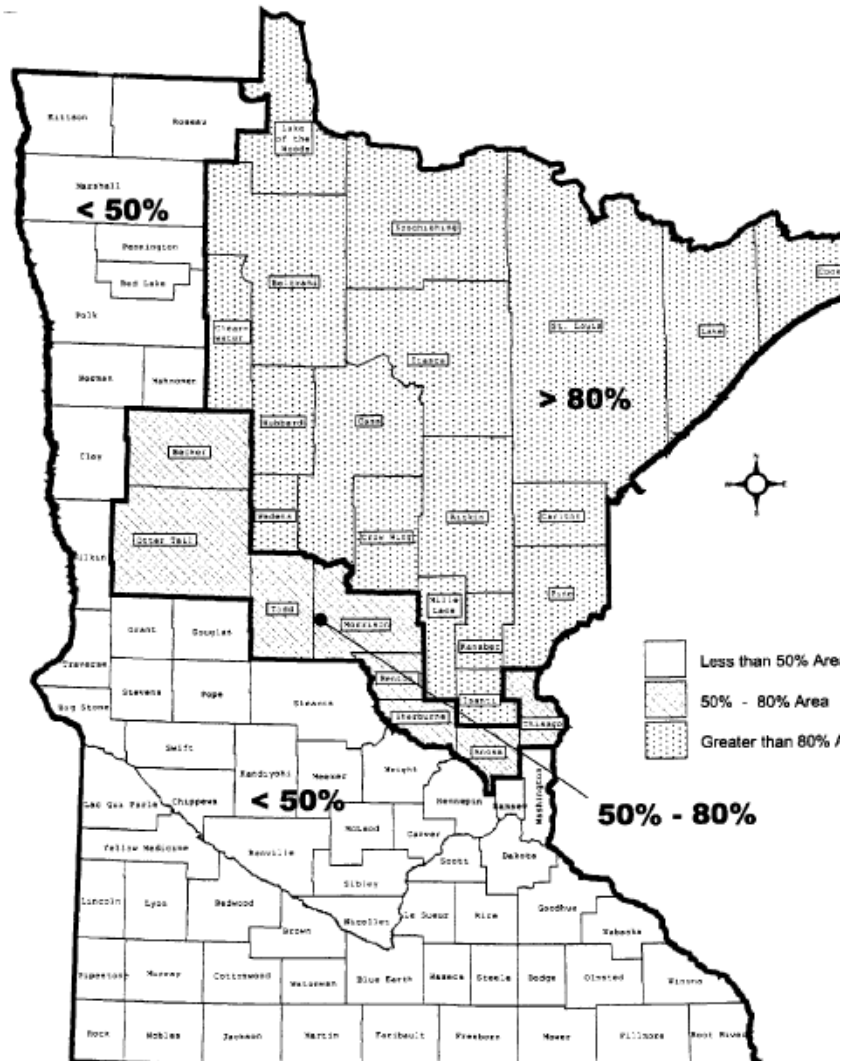
≠



>80, <50, 50-80

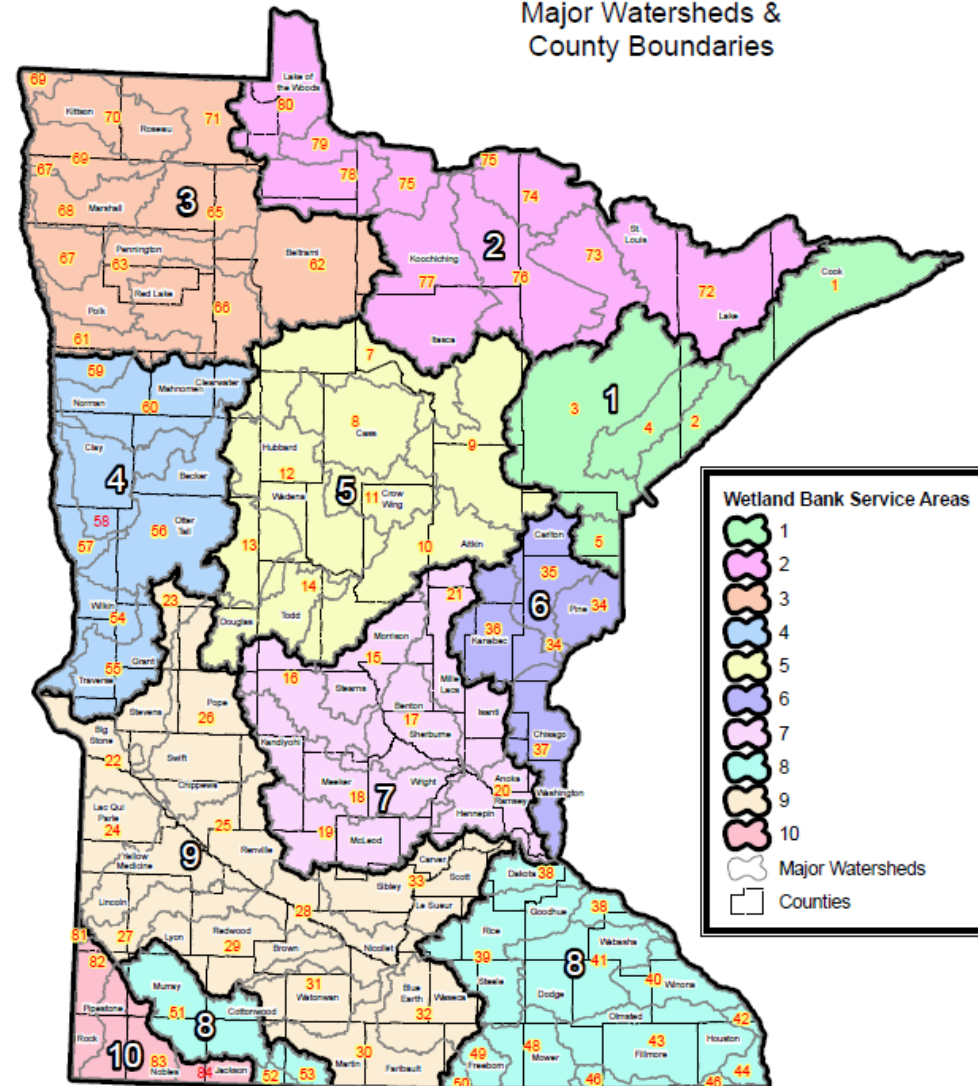
BSA

Minnesota Wetland Conservation Act Pre - Statehood Wetland Areas



Wetland Bank Service Areas

With
Major Watersheds &
County Boundaries



Replacement Siting



Not Sitting



Not Citing



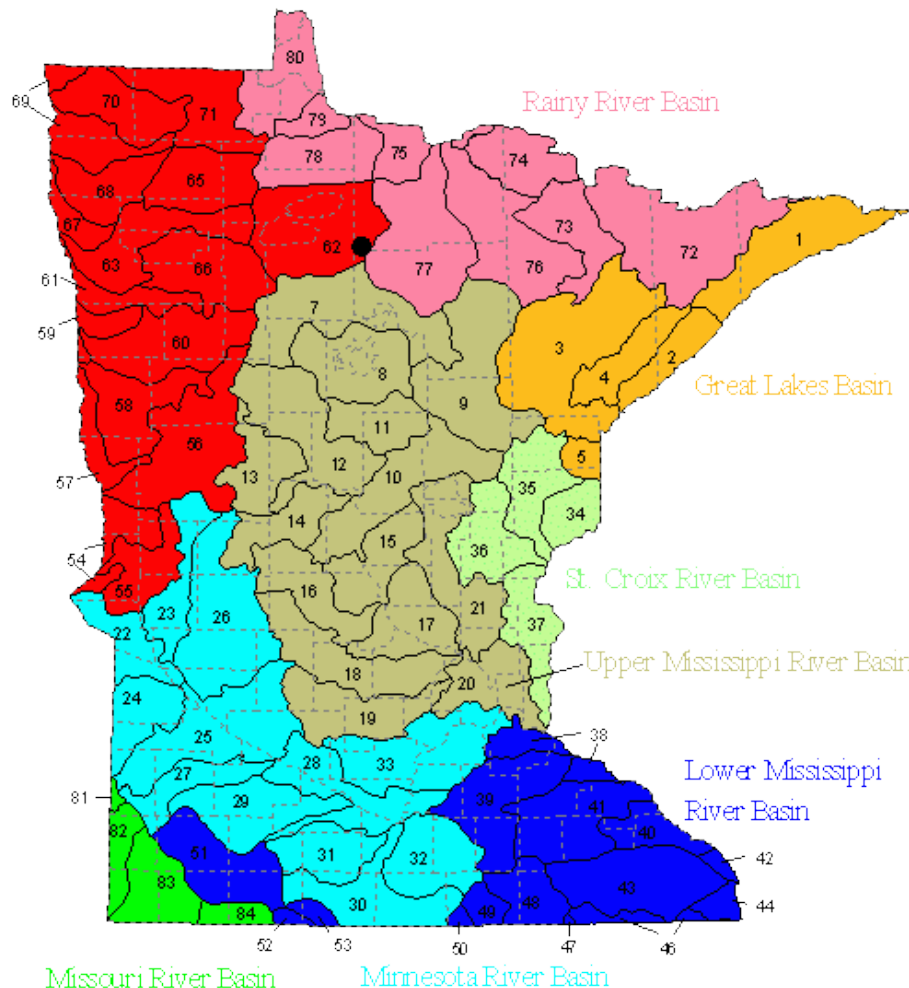
Siting Criteria (See handout)

Applicants must follow criteria even if it means higher replacement ratio.

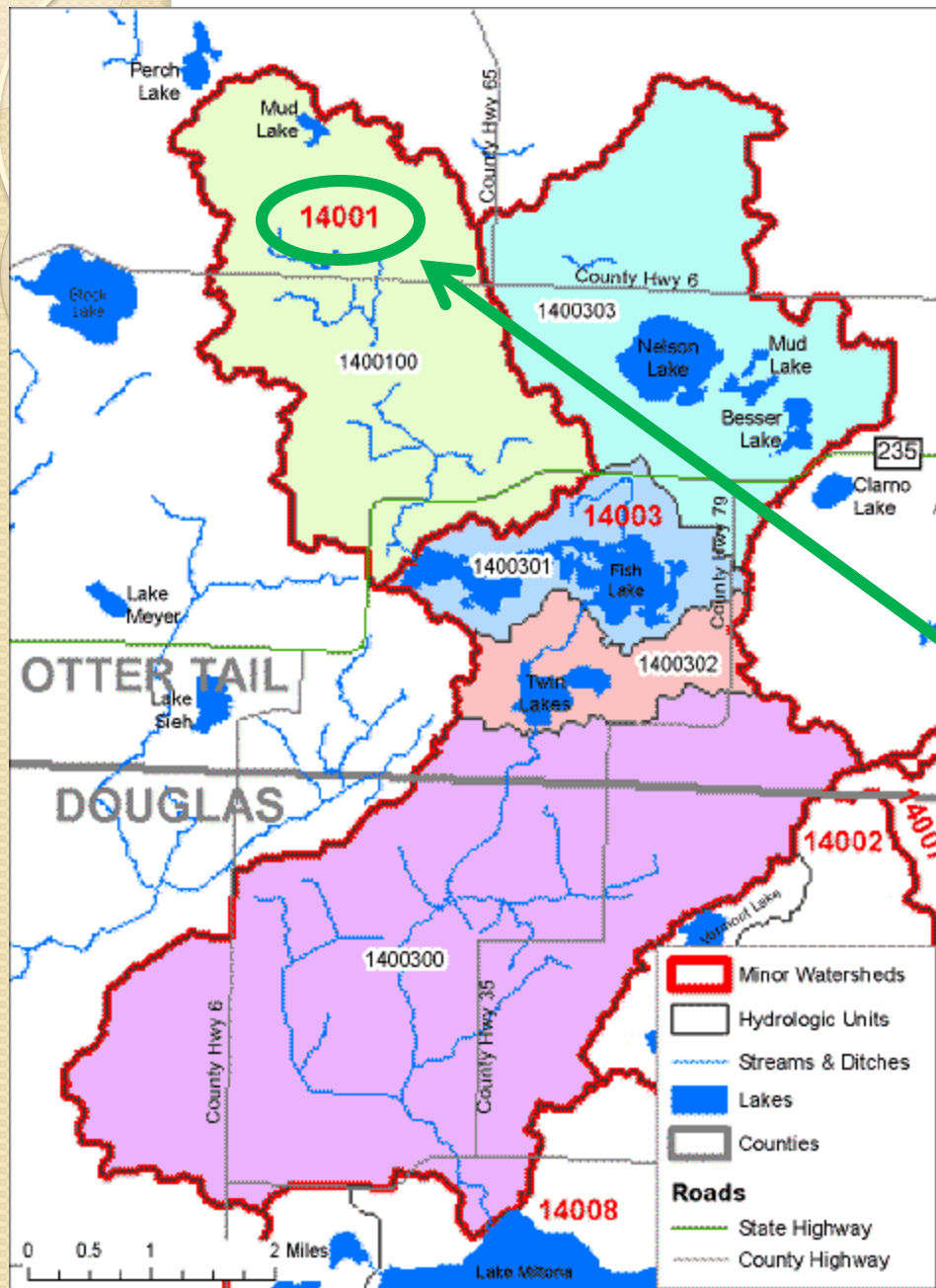
To apply siting criteria you need to know:

MAJOR BASINS AND WATERSHEDS OF MINNESOTA

Red River of the North Basin



Major Watershed



**Minor
Watershed**
(5000+ in MN)
**5-digit
HUC**

Actions eligible for credit

Page 57 (.0526)

All the things that can be
done to get wetland credit.

Variations of:

Create

Restore

Preserve

Monitoring

If you replace wetlands,
you must monitor them.



Monitoring is intended to insure that public values are being replaced



Monitoring Requirements

Page 69 (.0735)

Same for bank or
project-specific
replacement.

Annual reports for 5 years



[illegible]

Document Activities

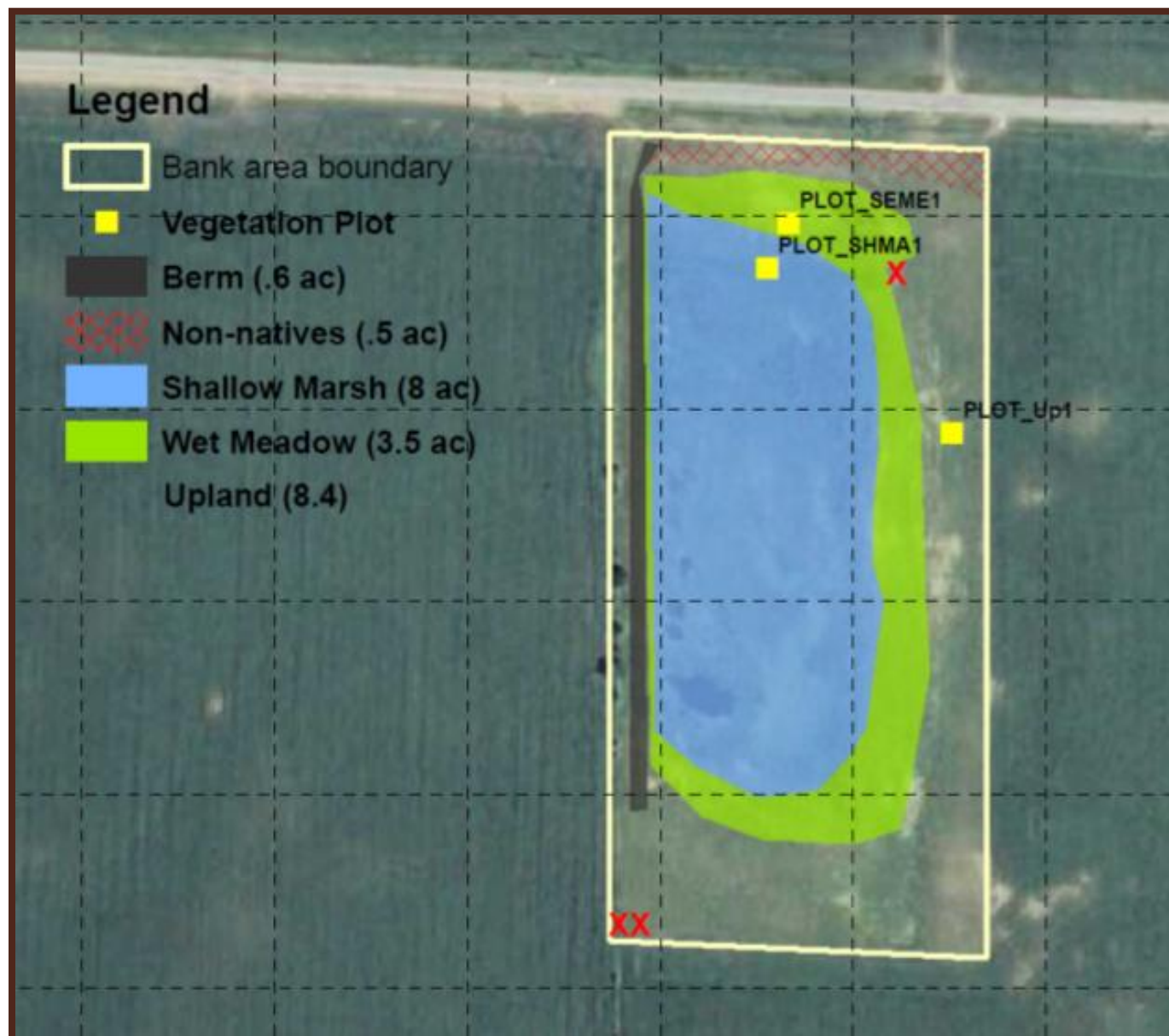
Date	Activity
Fall 2006	Herbicide applied to sod area (24 acres).
Fall 2006	Monitoring wells installed at 16 locations to measure hydrology.
August – November 2006	Construction work on water control structures.
Oct-Nov 2006	Broadcast seeded, with supplemental hand seeding.
May 2007	Planted approximately 1650 trees and shrubs (300 tamarack, 300 black ash, 100 red maple, 100 yellow birch, 100 silky dogwood, 300 red osier dogwood, 350 highbush cranberry, 100 sandbar willow) by hand in the northern half of the bank site.
June 2007	4 check dams installed in center east-west ditches; approximately 90% of hydrologic restoration work completed.
July - September 2007	Ditch plug and embankment work in Phase II area (east of Phase I). In-line water control structure installed. Completed hydrologic restoration work for phase I.
August 2007	Mowed annual weeds (20 ac) in sod area (central field).
September 2007	Light tilling of 20 acres in central field.
October 2007	Herbicide application (Rodeo) in ditches and weed patches (nettle and thistle) (30 ac).
February 2008	Principle structure in Phase II area constructed (dike with rock armored spillway).
June 2008	Mowed 25 acres (central field).
June 2008	Spray 35 acres of (12 ac upland field and areas in phase II) with glyphosate to manage brome and other non-native species.
July 2008	Upland field seeded (drilled); wetland fields in Phase II area seeded.
September 2008	Sprayed 33 acres of reed canarygrass in phase I area and on adjacent bank site "Goertz" with glyphosate.
October 2008	Spray approximately 15 acres of Canada thistle with Stinger herbicide.
October-November 2008	Remaining construction work for Phase II area completed (4 ditch plugs, 1 large embankment, miscellaneous pipe removal).
November/December 2008	Diseased oak trees removed.



Monitor Hydrology



Monitor Vegetation





Summary of Monitoring

Who Monitors? – **Applicant**

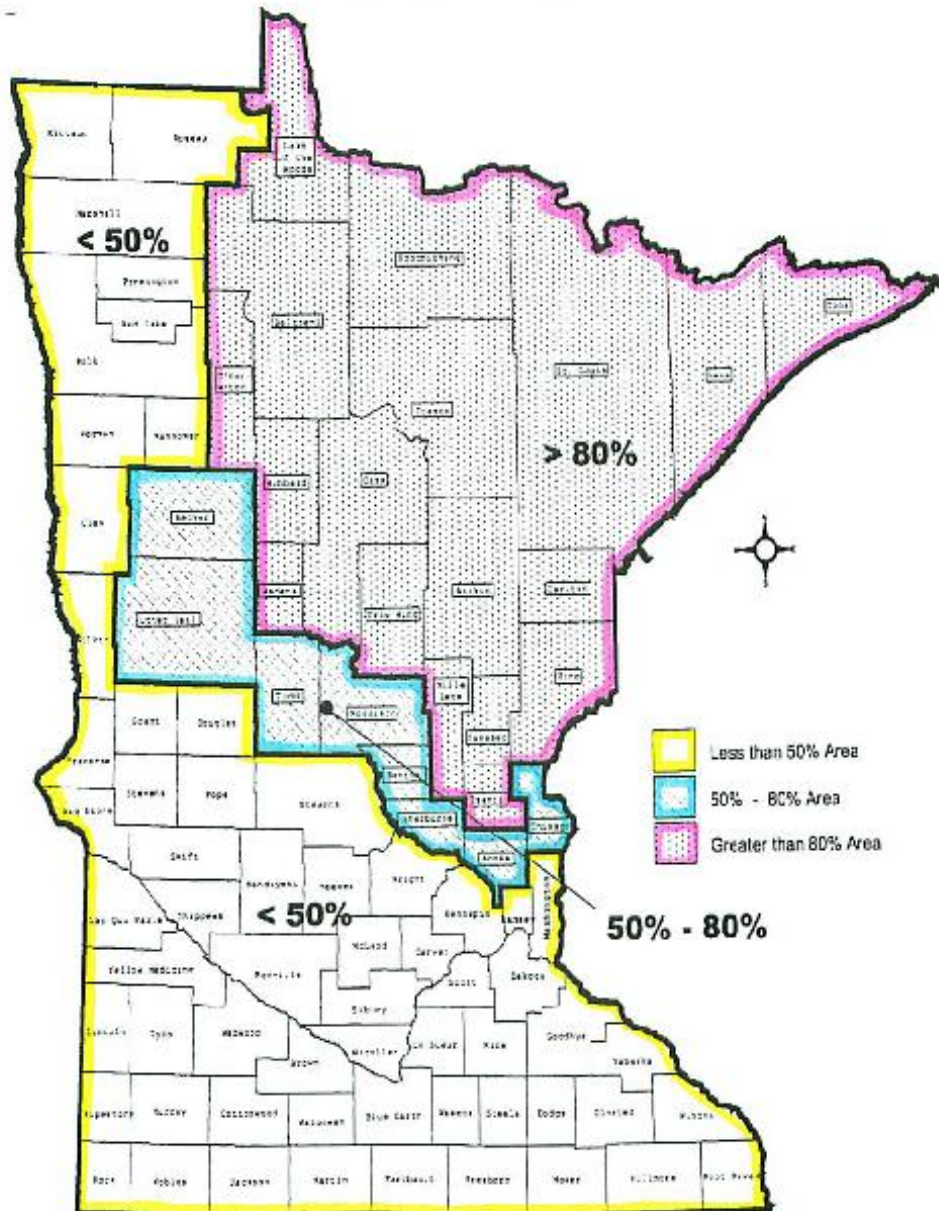
How Often? – **Annually**

How Long? – **5 years (generally)**

Who checks monitoring? – **LGU**

Who determines when replacement is satisfactory - **TEP**

Minnesota Wetland Conservation Act Pre - Statehood Wetland Areas



Regional Differences

- Is WCA different depending on where you are located in MN?
 - Yes
 - Deminimis Exemption
 - Replacement Ratios
 - Siting
 - Actions Eligible for Credit (Subp. 9. Preservation)
 - _____

Question – De minimis Exemption:

Type 2 wetland outside of the wetland protection zone? pg. 40

